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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,521	04/26/2002	Patrick J. Lennon	MTC 6647.2	6864
321	7590	04/22/2004	EXAMINER	
SENNIGER POWERS LEAVITT AND ROEDEL ONE METROPOLITAN SQUARE 16TH FLOOR ST LOUIS, MO 63102			CLARDY, S	
			ART UNIT	PAPER NUMBER
			1616	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

## Application No.

09/926,521

## Applicant(s)

LENNON ET AL.

## Examiner

S. Mark Clardy

## Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 67-76, 91-93, 96, 97, 99-104 and 110-178 is/are pending in the application.
- 4a) Of the above claim(s) 91-93, 96, 97, 99-104, 110-151, 172-178 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 67-76, 152-171 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/18/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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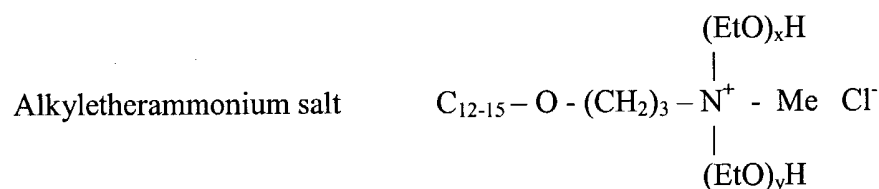
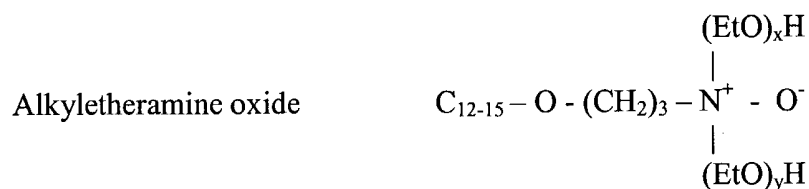
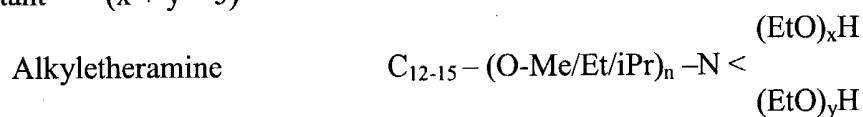
Claims 67-76, 91-93, 96, 97, 99, 100, 103, 110-151, and new claims 152-178 are pending in this application.

In Paper No. 9, applicant elected the invention of Group IV (glyphosate compositions), and the species comprising:

Glyphosate (acid, salt, or ester)

Oxalic acid (as the dicarboxylic acid)

Surfactant ( $x + y = 5$ )



Claims 100-104 and 144-151 were previously held withdrawn as being drawn to a non-elected invention; claims 138-140 were held withdrawn as being drawn to nonelected species.

Claims 91-93, 96, 97, 99, 110-137, 141-143, and 172-178 are drawn to species which lack the oxalic acid component of the elected species, and are thus now held withdrawn as well.

Claims 67-76, and 152-171, drawn to the above elected species, are examined further below.

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In the new listing of claims filed January 23, 2004, it is noted that several claims were simply identified as "withdrawn", without including the text of the claims. These claims will be taken as having been canceled if the text is not restored in a subsequent claims listing.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 67-76 and 152-171 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Ward et al (US 6,093,681), Wright et al (US 5,750,468), and Suzuki et al (US 6,313,074), Beestman et al (US 4,159,901), and Hasebe et al (US 5,863,863).

Ward et al, again, teach the utility of formulating herbicides such as glyphosate (col 18, lines 18-19) in an aqueous composition which forms anisotropic aggregates on the waxy cuticle layer of a plant which, according to the inventors' understanding, enhances herbicidal activity by forming hydrophilic channels through the epicuticular wax (abstract). The aggregate forming substances tend to form lyotropic mesophases (col 11, lines 3-6), and may be present as a bilayer or liquid crystal structure (col 10, lines 5-67). Among the useful surfactants for the compositions are alkoxyalkated etherammonium surfactants (col 7-8).

Wright et al, again, teach aqueous glyphosate formulations comprising alkoxyalkated etheramine, etherammonium, or etheramine oxide surfactants (abstract, columns 3-4 and 14), which may also contain additional surfactants such as alkyl polyglucosides (col 8, lines 35-36). An advantage of the compositions is the high concentrations of glyphosate that may be achieved, for example, 450 to 500 g ae/l (col 5, lines 31-40).

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Suzuki et al, again, teach that agrochemicals such as glyphosate (col 7, lines 30-31) may be combined in various conventional formulations such as emulsions (col 5, lines 9-11) with additives that enhance the activity of the agrochemical, specifically, an alkoxyated ether surfactant (column 1), which may be combined with other surfactants (col 2, lines 64-66) such as alkylglycosides, alkyl polyglycosides, polyoxyalkylene alkylpolyglycosides (col 3, lines 19-22), and polyoxyethylene alkylamine or polyoxypropylene alkylamine surfactants (lines 23-31). The compositions may also comprise a chelating agent (columns 3-4) such as the aliphatic carboxylic acid, oxalic acid (col 4, lines 37-39).

Beestman et al, again, teach that it was known to formulate glyphosate with surfactants (column 3), including alkoxyated alkylamines (lines 51-60).

Hasebe et al (cited in a previous IDS) teach that the addition of at least one oxalic acid or a salt thereof enhances the herbicidal activity of amino acid series herbicides such as glyphosate (abstract; columns 2-4), in combination with a tertiary amine surfactant component.

One of ordinary skill in the art would be motivated to combine these references because they disclose the utility enhancing effects of surface active agents in glyphosate compositions.

Thus it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have combined applicants' elected etheramine or etherammonium surfactants with glyphosate because the prior art teaches that these components were known in glyphosate compositions, and that they serve to enhance the herbicidal activity of glyphosate. Further, the Ward et al teach that glyphosate is advantageously formulated in a way that results in forming anisotropic aggregates that enhance the penetration of glyphosate through the cuticular layer of a plant. Hasebe et al, in addition to teaching the utility of amine surfactants as

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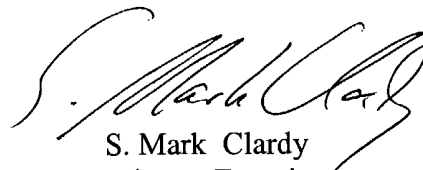
taught in the other references, further discloses that oxalic acid enhances the action of the composition. The various additional range limitations (crystallization points, cloud points, viscosity, and other functional characteristics) are seen as obvious variations which merely result from the specifically identified composition components, and are not patentable absent evidence demonstrating the criticality of the ranges.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Mark Clardy  
Primary Examiner  
Art Unit 1616

April 19, 2004